```
In[47]:=  Clear[Wait, rep
          , cust, queue, t1, s1, s2]; {Wait, rep, cust, queue} = {{0}, 100 000, 1, 1};

In[48]:=  While[cust ≤ rep, t1 = Random[ExponentialDistribution[1]];
           s1 = Random[ExponentialDistribution[1]];
           s2 = Random[ExponentialDistribution[2]];
           If[queue == 0, cust = cust + 1; queue = 1; AppendTo[Wait, 0], If[queue == 1,
             If[t1 < s1, cust = cust + 1; queue = 2; AppendTo[Wait, 0], queue = 0], If[
              queue == 2, If[t1 < s2, cust = cust + 1; queue = 3; AppendTo[Wait, 0], queue = 1],
             If[queue == 3, If[t1 < s2, Wait[[cust]] = Wait[[cust]] + t1; cust = cust + 1;
               queue = 4; AppendTo[Wait, 0], queue = 2; Wait[[cust]] = Wait[[cust]] + s2],
              If[queue == 4, Wait[[cust - 1]] = Wait[[cust - 1]] + s2;
               Wait[[cust]] = Wait[[cust]] + s2; queue = 3]]]]]]

In[49]:=  Clear[p0, p1, p2, p3, p4, L, Wq];
          {p0, p1, p2, p3, p4, L, Wq} = {8 / 23, 8 / 23, 4 / 23, 2 / 23,
            1 / 23, 0 * p0 + 1 * p1 + 2 * p2 + 3 * p3 + 4 * p4, L / (1 * (1 - p4)) - 1};
```

Compare simulated p with theroretical p

```
In[50]:=  For[i = 1; count = 0, i ≤ rep, i++, If[Wait[[i]] == 0, count = count + 1]];
          N[{count / rep, (p0 + p1) / (1 - p4)}]

Out[50]=  {0.72536, 0.727273}
```

Compare simulated Wq with theoretical one

```
In[51]:=  {Mean[Wait], N[Wq]}

Out[51]=  {0.182865, 0.181818}

In[52]:=  Histogram[Wait]
```